

Claims Pending and Amended after Third Office Action

1 1. (presently amended) An expandable hoop support for a flexible  
2 tube having a nominal opening and a target site having an  
3 unsupported aperture with an aperture size, comprising:

4 a. a preformed hoop composed of material disposed to form  
5 a first coil which first coil is disposed to form a  
6 second coil having an outer diameter, having memory  
7 retaining properties and having one of a rounded and a  
8 ball end, wherein said second coil further comprises

9 a beginning and an ending longitudinally disposed  
10 sections each having substantially uniformly spaced  
11 second coil loops, and

12 a middle section disposed between and contiguous  
13 with said beginning and end sections and comprising a  
14 loop having a loop spacing greater than said beginning  
15 and ending longitudinally disposed sections loop spacing,  
16 said middle section loop spacing being sufficient to  
17 provide non-occluding blood flow therethrough; and

18 b. cylindrical delivery means for constraining said  
19 second coil in to a linear configuration wherein said  
20 deliver means and said coil are adapted for insertion  
21 into said flexible tube at a target site unsupported  
22 aperture size and said delivery means is then removed,  
23 said hoop will then reconfigure to said second coil  
24 configuration wherein said double coil outer diameter is  
25 configured to be larger than said target site unsupported  
26 aperture size and configured to urge said target site

27                   aperture to said flexible tube nominal opening.

1     2.(previously amended) The expandable hoop support of claim 1  
2     wherein said delivery means is a delivery tube arranged to fit  
3     within one of said first and said second coil.

1     3.(previously amended) The expandable hoop support of claim 1  
2     wherein said delivery means is a delivery tube arranged to fit over  
3     one of said first and said second coil.

1     4.(previously amended) The expandable hoop support of claim 1  
2     wherein said hoop comprises a stent.

1     5.(previously amended) A procedure for opening a coronary artery  
2     having a nominal opening size adjacent a target having at least a  
3     partial occlusion thereof, comprising the steps of:

4                 a. determining an artery structure nominal opening size;  
5                 b. providing a preformed hoop composed of a primary coil  
6                 of material having one of a rounded and a ball end said  
7                 primary coil being wound to form a secondary coil having  
8                 an outer diameter matching said nominal opening size, and  
9                 instilling memory retaining properties into said  
10                preformed hoop to urge said material into said double  
11                coil;

12               c. providing a cylindrical delivery means for  
13                constraining said secondary coil into a linear

14 configuration;  
15 d. inserting said hoop and said delivery means into an  
16 artery at said target site having an unsupported aperture  
17 size less than said nominal opening size; and  
18 e. removing said delivery means whereby said hoop remains  
19 in said artery to support said artery in an open position  
20 wherein said secondary coil outer diameter is larger than  
21 said target site unsupported aperture size and said  
22 secondary coil is configured to urge said target site  
23 aperture to said nominal opening size.

1 6.(previously amended) The procedure of claim 5 wherein said  
2 deliver means is a rod arranged to fit within said primary coil.

1 7.(previously amended) The procedure of claim 5 wherein said  
2 delivery means is a delivery tube arranged to fit over said primary  
3 coil.

1 8.(previously amended) The procedure of claim 5 wherein said step  
2 of inserting comprises the step of inserting said delivery means  
3 into a coronary artery.

1 9.(previously amended) A vessel support system for support of at  
2 least a partial occlusion target site in a vessel having adjacent  
3 regions with a nominal opening size, comprising:

4 a preformed hoop comprising a wire wound in primary loops

5 therealong having one of a rounded and a ball end, said wire loops  
6 being further wound to form secondary loops therealong and having  
7 an outer diameter matching said nominal opening size, wherein

8       said secondary loop ~~loop~~ outer diameter is greater than  
9       a vessel target site aperture and sized to urge said aperture  
10      to said nominal opening size, wherein said secondary loop  
11      further comprises

12           a beginning and an ending longitudinally disposed  
13           sections each having substantially uniformly spaced  
14           secondary coil turns, and

15           a middle section disposed between and contiguous  
16           with said beginning and end sections and comprising a  
17           turn having a spacing greater than said beginning and  
18           ending longitudinally disposed sections turn spacing,  
19           said middle section turn spacing being sufficient to  
20           provide non-occluding blood flow therethrough.

1    10.(previously amended) The vessel support system of claim 9,  
2    further including

3       a delivery means for constraining said secondary loop into a  
4      substantially linear configuration.

1    11.(previously presented) The vessel support system of claim 9,  
2    wherein said wire comprises a multi-filar wire.

1 12.(cancelled)

1 13.(cancelled)

1 14.(cancelled)

1 15.(presently amended) The procedure of claim 5 wherein said step  
2 of providing a preformed hoop includes the step of providing a  
3 longitudinal an open space within and contiguous with sections of  
4 said preformed hoop having a second coil longitudinal loop spacing  
5 less than said open space, said open space being of sufficient size  
6 to permit fluid flow into an artery side branch.

1 16.(previously presented) The procedure of claim 15, further  
2 including the step of orienting said open space within said artery  
3 to align said open space with said artery side branch.

1 17.(cancelled)

1 18.(cancelled)